Abstract

Title: Analysis of discordant PET and CT findings in 18F-FDG PET-CT scans in the management of oncology patients

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Objectives:

Discordant findings are often noted between PET-CT and CT images of 18F-FDG PET-CT scans. This study aimed at determining the significance of these findings in the management of oncology patients.

Methods:

This was an observational, descriptive study. Hence retrospective analysis of all discordant findings in oncology patients undergoing a PETCT imaging between Jan 2013- Jan 2016 was done. Those patients who had a follow up period of minimum one year in either of the following forms - repeat PETCT imaging, other radiological imaging, clinical or histopathological evidence were included. From all the discordant lesions, the sensitivity, specificity, positive predictive, negative predictive value and accuracy of both PET-CT and CT modalities were determined.

Results:

Of 348 discordant lesions, 16.7% was noted in soft tissues, 25% in viscera, 28.7% in lungs, 14.1% in lymph nodes and 15.5% in bones. At the end of follow up, 15.2% lesions were PET true positive, 57.5% PET true negative, 10.1% CT true positive lesions, 13.8% CT true negative and 3.4% were inconclusive. 18F-FDG PET-CT is superior to CT imaging in oncology.

Modality	Sensitivity	Specificity	PPV	NPV	Accuracy
PET-CT	60.2 %	80.6 %	52.4 %	85.1 %	75.3%
CT	39.7 %	20.4 %	47.6 %	14.9 %	24.7%

Keywords: 18F-FDG PET-CT, discordant, oncology